

# You, me and a Disaster

An activity book for children



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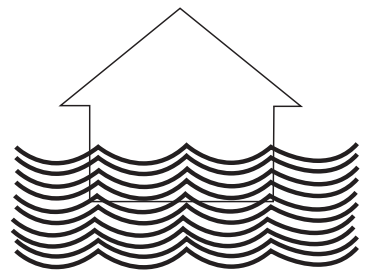
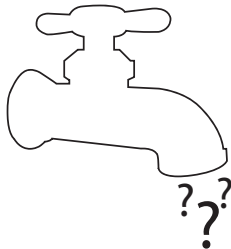
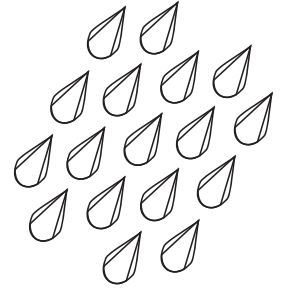
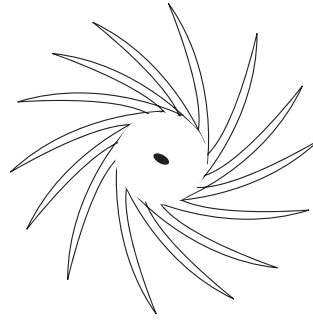
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**aiyooooo!**  
**So many disasters...**

# You, me and a Disaster

An activity book for children



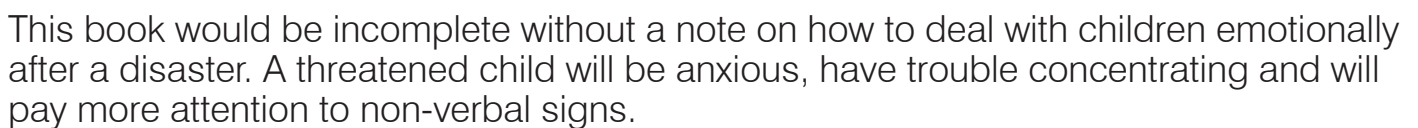
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### Note to the teacher, care giver or parent

The activity book has been designed for **adults and children to work together**. The children can learn about different disasters – how and why they occur, and what can be done before, during and after a disaster. The answer is: **Be Prepared!**

As a teacher or the adult in any child's life you have an important role to play, not to transfer information but to facilitate learning. Encourage them to ask questions, find the answers with them through discussions and through conducting experiments and observing things. There are no 'right' answers to most questions. Sometimes there are no 'answers' at all. As an adult allow them to see that you are in the process of learning yourself.





Give the child age appropriate information (“who, what, where, why and how”) to help them make sense of the adult world. If you don’t know the answer to their question tell them so. Having choice and some sense of control in activities and interaction with an adult will help a traumatized child feel, think and act in a more mature fashion. When a child is having difficulty or feels anxious frame things simply and clearly. This will help.

Watch closely for signs of re-enactment of the trauma; in play, drawing etc. Other symptoms which may be exhibited even years after the traumatic event may include:

- Being withdrawn, daydreaming, avoiding other children
- Physiological hyper-reactivity - anxiety, sleep problems, behavioural impulsivity.

The best thing you can do is to keep some record of the behaviours and emotions you observe (keep a diary) and try to observe patterns in the behaviour.

Children adapt to situations much better when they know what to expect.

By **creating a school and community disaster plan**; you can help children get ready to deal with disasters. Encourage the learners to organize their ideas and information by drawing a picture as a group and writing down keywords. At this stage **how right or wrong their ideas are, is not important**. What IS important is to see if they are willing to share ideas and thoughts.

## Activity: Scribble space

Have you ever lived through a cyclone? What did it feel like? Were you scared? Use the space below to **make drawings** of the things you associate with a cyclone.



The section **Activity Guide for the Educator** defines the **objective of each activity**, whether it has to be played as an individual or as a group, the approximate time it will take to complete along with a basic list of the materials that will be needed.



## Activity - What is this?

Can you identify the disasters that these symbols stand for?



.....



.....



.....



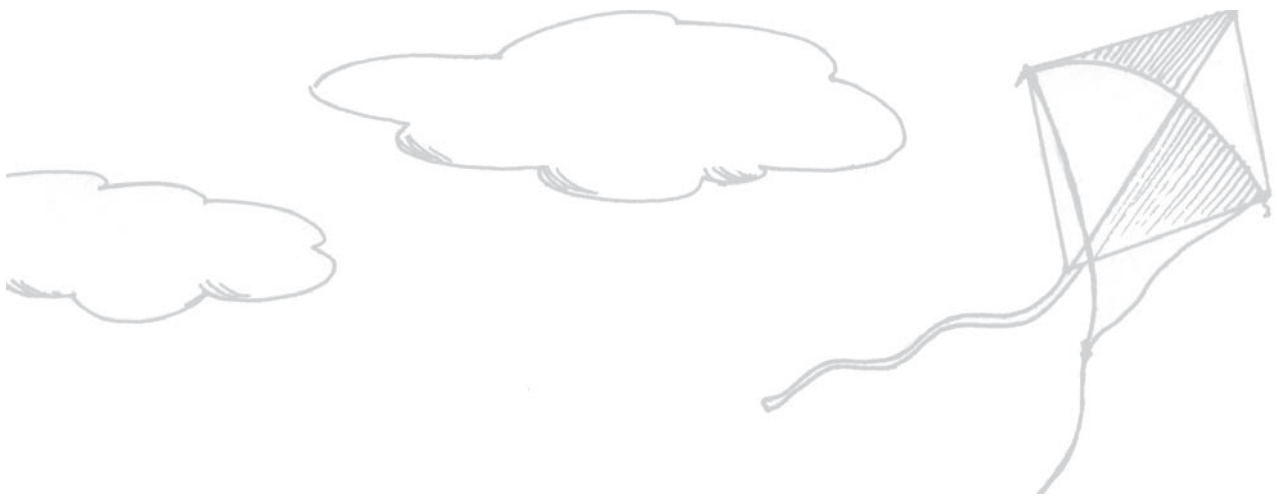
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.....



.....



## Look around you...

Nature is always moving and changing. White clouds with clear skies, strong winds and dark looming clouds, rain, the tides, the waxing and waning of the moon and the change in seasons. Wind makes kites fly. Fire can keep us warm and rain helps, crops grow. But sometimes the wind blows too hard, fires get too big or it rains too much.

### Poster Making

Ask the learners to make posters that identify some aspect of the weather.

## What is a Disaster?

A disaster is when something happens that can hurt people and cause damage. The disasters that can strike your community are floods, cyclones, fires, drought and chemical disasters. Some of them are Natural, others are man-made.

### Natural Disasters

Floods, cyclones, earthquakes, volcanic eruptions, tornadoes, electric storms, drought, landslides and plagues.

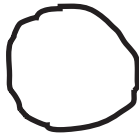
### Man-made Disasters

Fires, explosions and toxic chemical spillages and in some cases drought. Man-made disasters can also be brought about by activities such as deforestation..

The typical effects of a disaster are loss of lives, homes and livelihoods. Disasters are better handled when everyone is prepared for one and knows what to do.

# Activity - The Cycle of Seasons

What does  
mean?



this symbol

Use the big circle on your right to draw or write answers to the questions below:

- During which months of the year does it rain?
- Which months of the year are crops sown? Do you know what they look like? Draw what you know in the circle.
- What are the different festivals you celebrate at different times in the year?
- During which months is your village likely to flood?
- Which part of the year are cyclones likeliest to form?
- Did you know that different kinds of fish can be caught in different parts in different parts of the year?
- Which months of the year do fishermen not go out to fish? Why do you think they do that?
- What kind of work do they do when they are not fishing?



**Use these symbols  
in your wheel.**



October

November

December

September



January

February

March

April

May

June

July

August

The seasons are much like a wheel. The word for this is CYCLICAL

# What is a map?

You must have seen maps on the television and in newspapers. Your geography book is full of different kinds of maps.

Maps can be drawn about pretty much anything you want. You can draw a map of your own. It is a representation on paper of the things that you see around you.

In general, a good map includes:

**A Title:** Which tells you the “what”, “where”, and “when” about the map.

**The Date:** Which helps the person reading it understand when the map has been drawn.

**A Legend:** Which is a key telling the reader the meaning of the symbols that the map-maker (cartographer) has used to help him represent the area shown in the map; and

## LEGEND

Sea-shore



Coconut tree



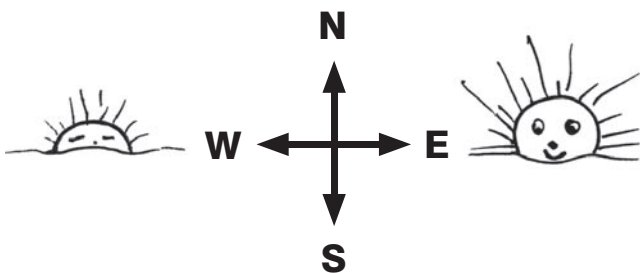
Marriage hall



Two storey house



**Orientation:** Which marks the directions on the map. Which part faces east.



## Activity - About Maps

Look at the map drawn on the opposite page. See if you can spot:

- The school
- Temple
- Hospital
- Marriage hall
- Coconut grove
- Seashore
- Village pond



## Activity - Drawing Maps

### Part I

Now draw a map of your own of the path that you take from your house to school. What are the different things (buildings, trees, fields, shops) that you see along the way?

Draw each of them carefully.

### Part II

With the help of your teachers draw a map of your whole village.

- Draw out all the houses and streets.
- Now draw the school, temple, hospital, community hall, wedding hall
- Put it up on a wall of the classroom for everyone to see.

Don't forget the title, date, directions and legend.

# CYCLONE

Have you ever lived through a cyclone?

What did it feel like?

## Activity: Scribble space

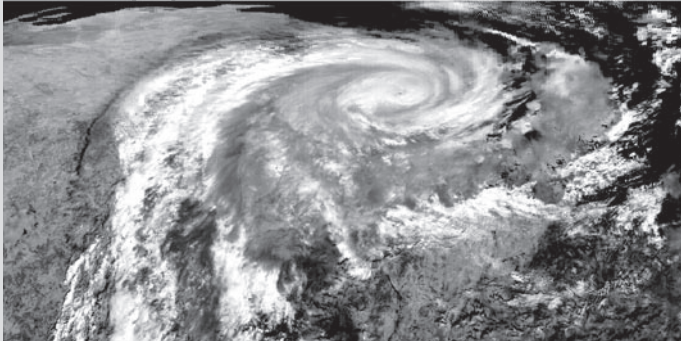
Were you scared? Use the space below to make drawings of the things you associate with a cyclone.





# What is a Cyclone?

So you know a little bit about cyclones from experience. But have you ever wondered how a calm blue sea can turn dark and angry or the breeze that helps you fly a kite a ferocious wind that can blow off your roof and uproot trees?

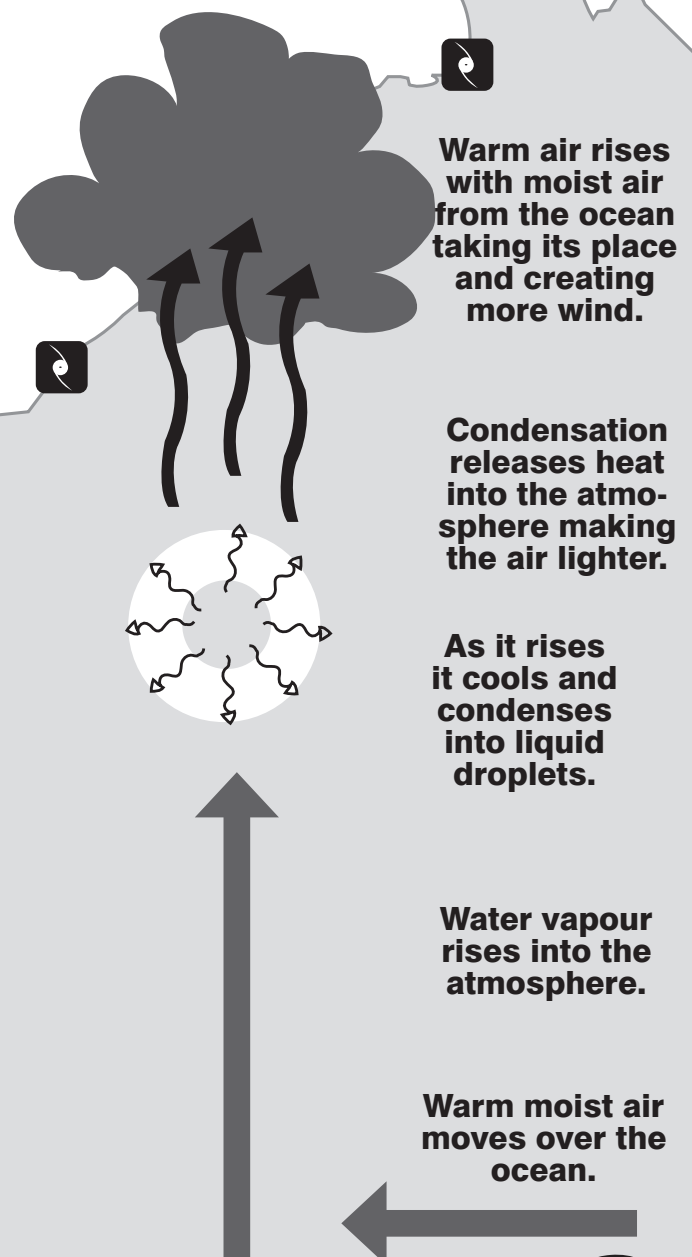


When a sudden low-pressure area develops over warm seas accompanied by a violent whirl of winds with clouds around it, it is called a cyclone. Fierce tropical cyclones occur in India during the pre-monsoon, early monsoon, or post-monsoon periods.

## The Impact

- **Storm surges:** Huge tides cause a rise in the sea level and inundation of coastal areas.
- **Strong winds** arise which can damage structures.
- Heavy and widespread **rainfall** causing floods and erosion.

The **Andhra, Orissa, and West Bengal** coasts are especially susceptible to such storms which occur from October to December and sometimes in April and May.



# What can you do before the season of cyclones begin?

- The nearest high area must be identified in case a storm surge warning is issued.
- Long tree branches trimmed and dead trees cut down.
- Highlands for evacuating cattle must be identified/fodder/feed/and water for a week must be stored.
- Identify a cyclone shelter/s.  
(A safe, strong place to shelter in during a cyclone.)
- The condition of each dwelling needs to be checked and repairs/maintenance work carried out.

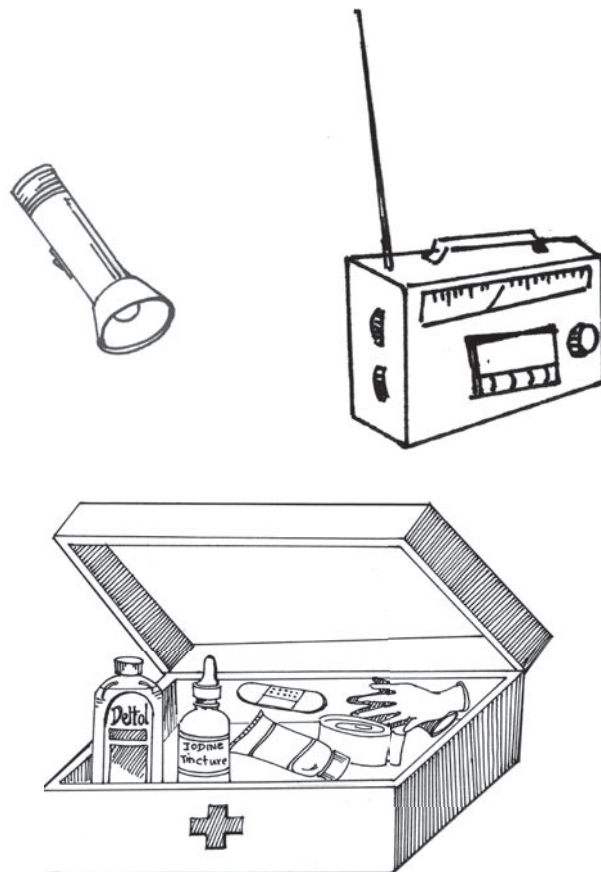


- A portable radio is a must for continuous warnings and updates.

- Keep your first-aid kit (see page 14) ready after the first warning.

- If possible, a rescue kit containing dry wood, reconditioned tyre tubes stored with an inflating device such as a cycle pump; a rope, iron hooks, container to bail out water, torches, a transistor, an anchor, a first aid kit.

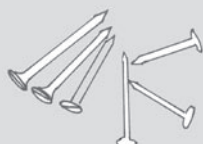
- Tools such as a cutting saw, blades, hammer nails etc must be kept handy.



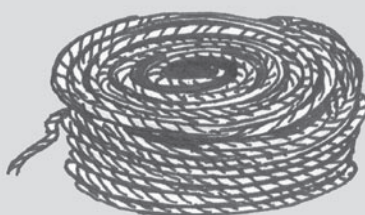
### Tools for the rescue Kit



**Iron Hooks**



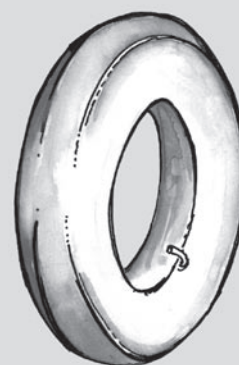
**Nails**



**Rope**



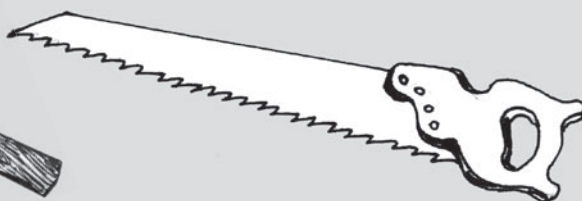
**Cycle Pump**



**Tyre Tubes**



**Hammer**



**Saw**

## Upon a cyclone warning

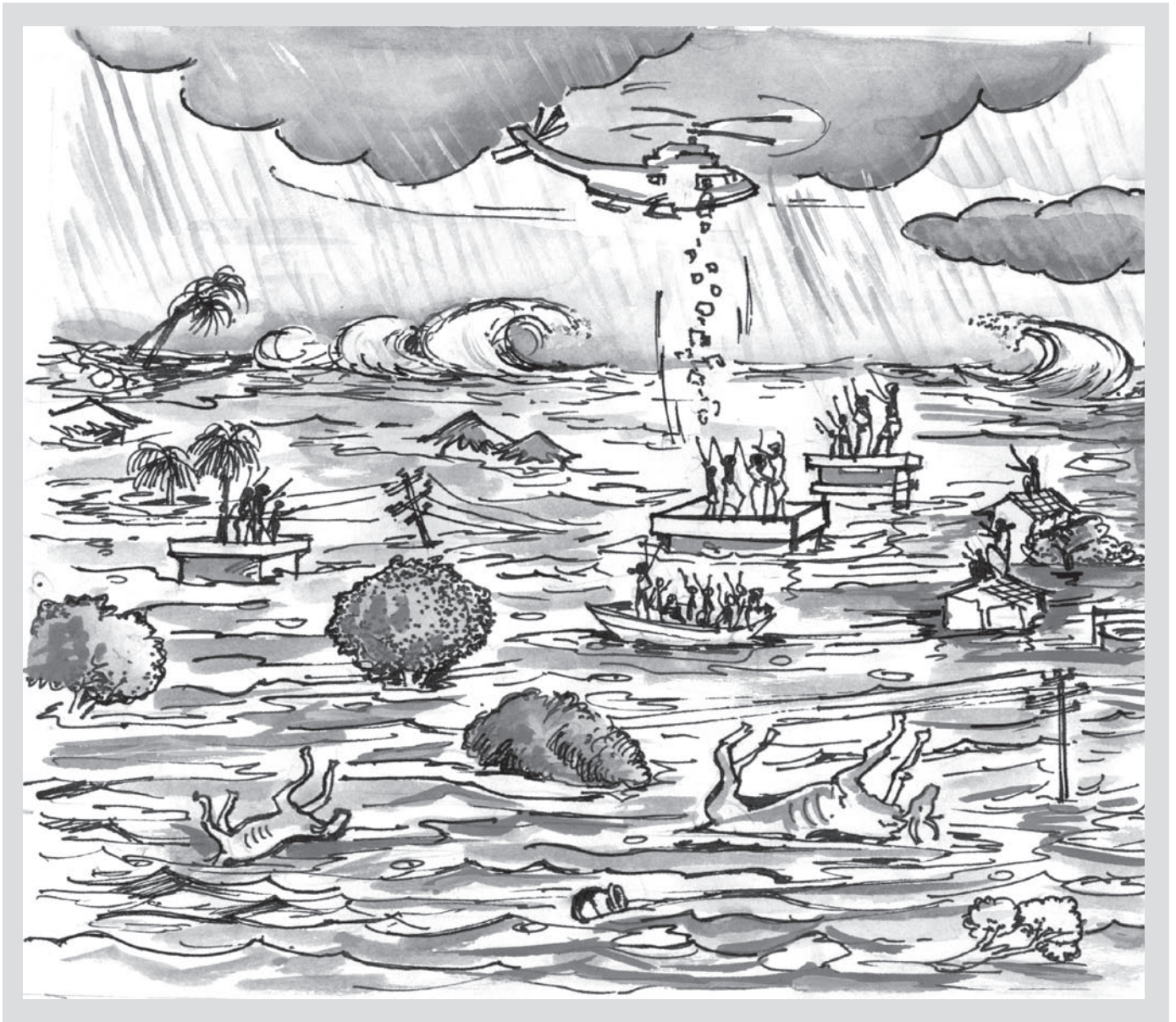
- Check the emergency kit.
- Switch off electricity, gas etc and lock your house before leaving.
- Move to a cyclone shelter depending on the severity of the warning.



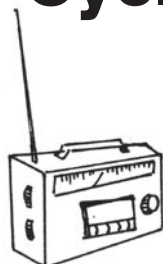


# When the cyclone strikes

- If you are inside your house when the cyclone strikes stay inside. Take shelter in the strongest part of the house.
- Protect yourself with mattresses or blankets.
- Do NOT go outside till you are advised by the local radio that the cyclone has passed.



## After the Cyclone



- Listen to your radio or television for warnings.
- Be careful of fallen power lines.
- Look out for damaged trees and flooded waterways.





## First-aid kit List

### Bandages

- Band Aid
- Gauze pads
- Crepe bandage
- Cotton

### Tablets for

- Oral Re-hydration salts
- Chlorine tablets
- Anti- Diarrhoea
- Anti-biotic (general)
- Anti-Histamine
- For fever
- Pain killers

### Disinfectants

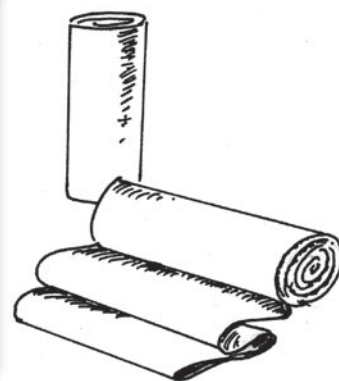
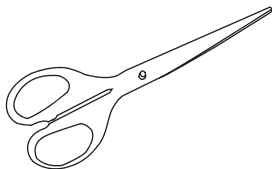
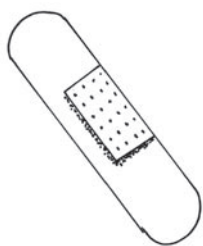
- Dettol
- Iodine
- Soap

### Ointments

- Anti-biotic ointments
- Vinegar
- Iodex

### Other

- Scissors
- Tweezers
- Thermometer
- Tape
- Gloves



## What will go into your First-Aid Kit?





### Activity: Scribble space

Describe the rain – how does it feel?  
What does it sound like?  
Have you ever witnessed very heavy  
rainfall or a flood?

**Draw** a picture here of what it felt like.

# What is a Flood?

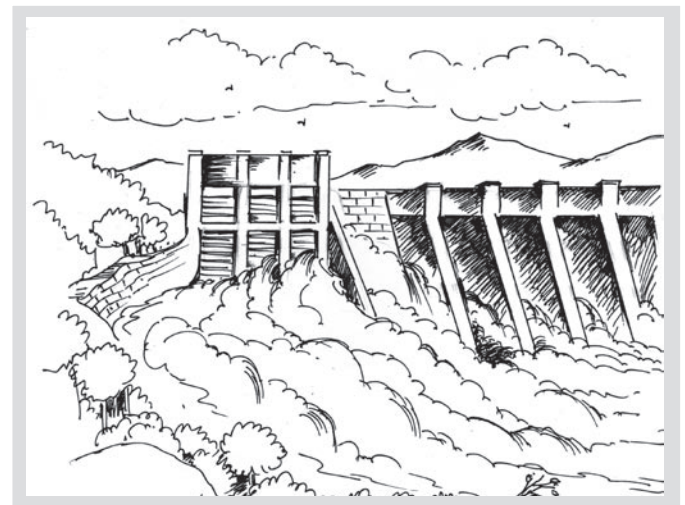
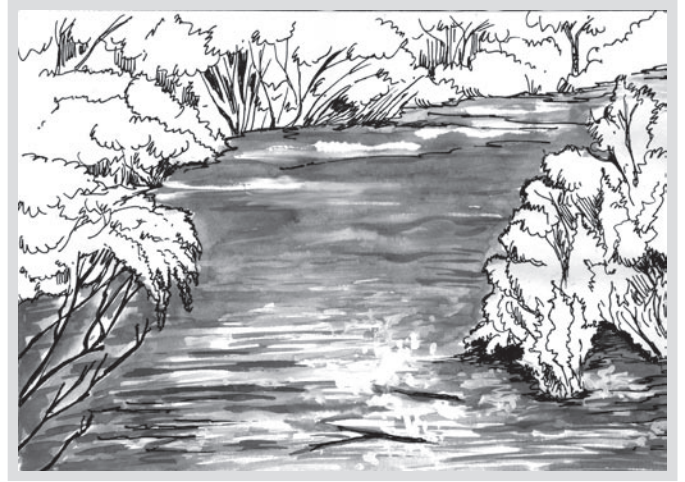
When land that is normally dry gets filled up with water it is called a flood. This can happen naturally as well as for reasons that are man-made.

**Natural causes:** Heavy Rainfall – when more rainfall has occurred than the ground can absorb.

- Rivers bursting their banks (due to heavy rainfall), and in some places snow rapidly melting which increases the level of water.
- Storm surges and rainfall during a cyclone.
- Landslides that block a river valley or create a dam to form a lake can cause flooding.

**Human Causes:** Silting of canals due to lack of maintenance.

- Blocking of canals or of similar water bodies.
- Change in land use.
- Decrease in wetlands or wetland reclamation.
- Release of dam waters.



## Activity: Story-telling

Ask your grandmother or grandfather if they have ever witnessed a flood.

When did it occur?

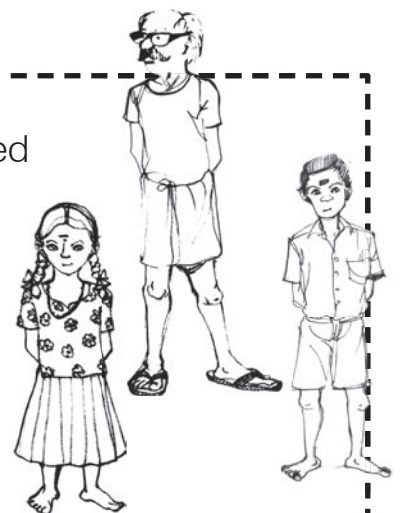
What city/region did it strike?

What did they do?

What damage did it cause?

How many disaster victims were there?

Draw pictures of the stories you are told for the others to see.





# What can you do before a flood?

- Before the rainy season begins, it is important that the storm water drains should be cleaned.  
Clear the drains of plastic bags because they can lead to flooding of roads when they are choked.

- Do not throw garbage in drains!

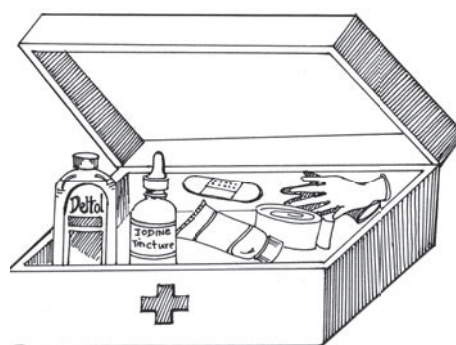
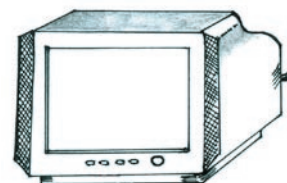
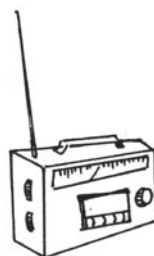
- If your area is low lying and prone to flooding during the rainy season, listen to the local radio and TV for flood warnings.

- If water were to enter your house, plan which indoor items should be kept at a higher level.

Keep electrical and electronic items, clothing and valuable items in lofts or on top of tables and beds.

- Keep your emergency kit ready.

- Discuss with your family members a safe route to get out of your house to a safe dry place in case of a flood.



## Activity: Adding to the Map

- Which side of the village is close to the sea?
- Where is the village pond? Mark the location of all the hand pumps and bore wells. Don't forget to colour them.
- Which are the areas that are the first to flood in the village?
- Identify the two-storey houses and concrete structures.
- On the Map draw out the route you would take if you had to get out of your house to a safe dry place.
- If the village were to be submerged in a flood mark the areas on the Map that will be water logged. What areas would remain completely dry?





# In the event of a flood

- Do not walk into water of unknown depth. Water currents can be very strong and you can be washed away suddenly.
- Use a stick to check the depth of water as you walk and if it is above knee depth, do not go further.

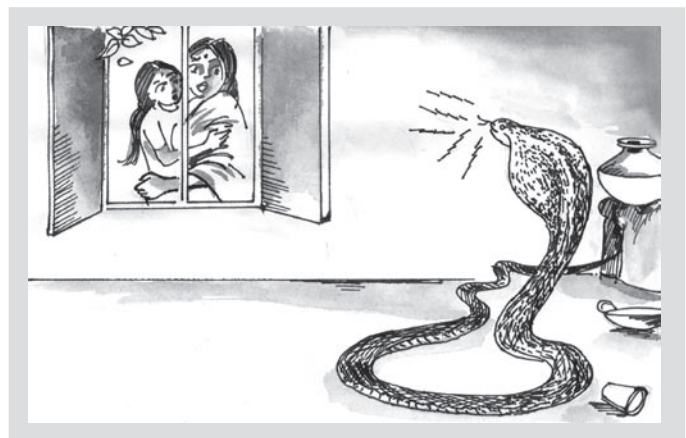


- When you leave your house, put sandbags on the toilet seat and over bathroom drain holes to prevent the backflow of sewage.
- Keep lime or bleaching powder which you can use to disinfect the areas where floodwater has entered.



## After a flood

- Do not eat food which has been in contact with floodwater.
- Boil all water before drinking.
- Do not use gas or electrical appliances until checked for safety.
- Beware of snakes, which may move into the drier areas of your house.



## Activity: Evacuation Game

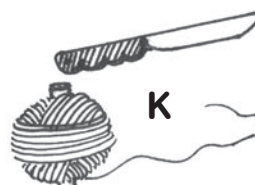
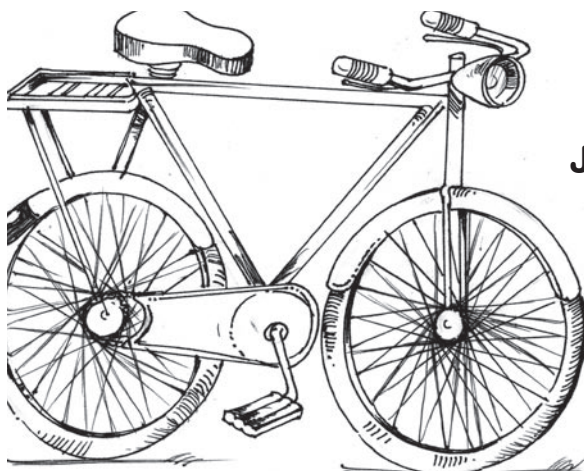
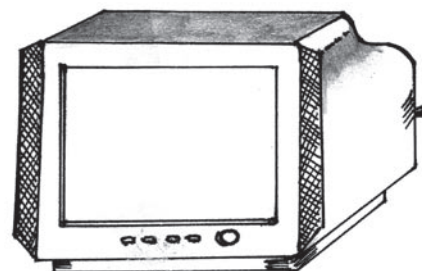
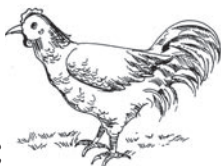
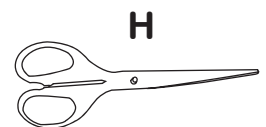
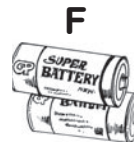
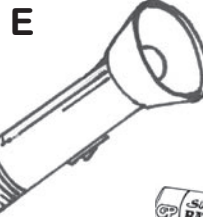
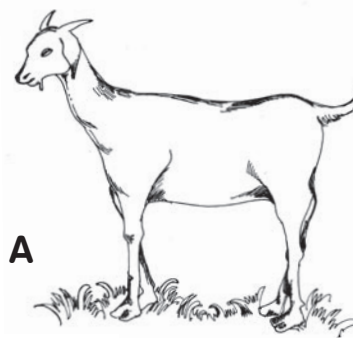
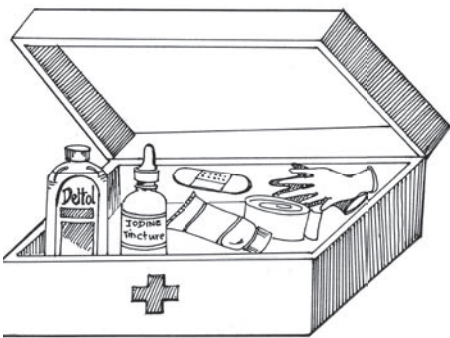
In the event of a cyclone or flood what will you take with you if you had to evacuate your home and go to the nearest shelter?

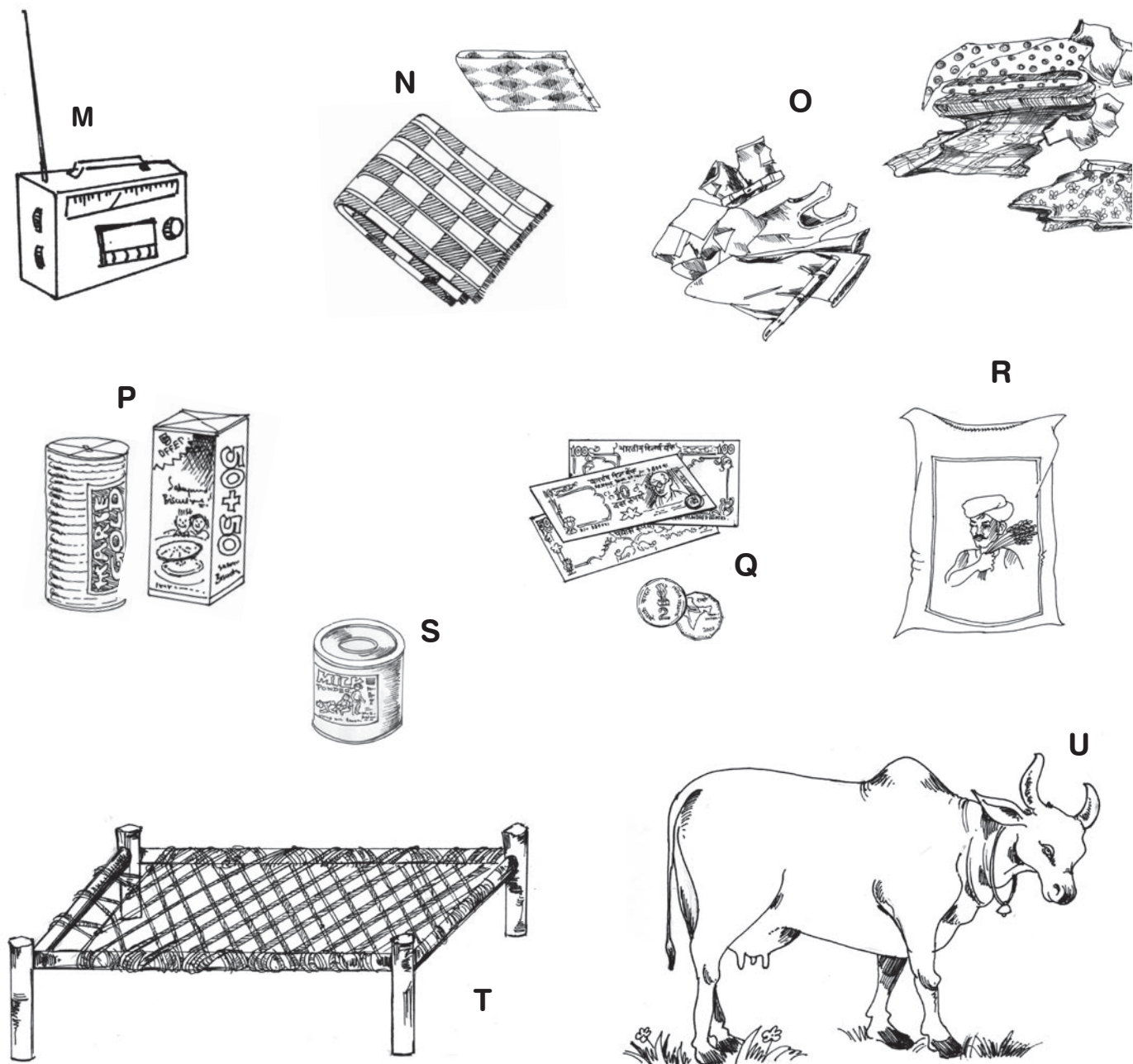
### How to Play

**GAME I**  
You have 6 hours to evacuate. Pick 8 things.

**GAME II**  
You have 24 hours to evacuate. Pick 12 things.

### Save Lives not Belongings





## Check your score:

Each of the alphabets have a corresponding score. Look at the points you have collected to see how much you scored in the game.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	3	1	3	3	2	2	2	0	1	2	2	2	2	2	3	3	2	3	0	1

### GAME I

### GAME II

**18 - 22 points:** Congratulations! You have won. You have saved lives!

**24 - 30 points:** Congratulations! You have saved lives.

**12 - 18 points:** You have saved lives but could do better.

**16 - 24 points:** You have saved lives but could do better.

**Below 12 points:** You have lost lives. Replay game.

**Below 16 points:** You have lost lives. Replay game.

Fire



### Activity: Scribble space

Where have you seen a fire? What colours did you see? Does it smell a particular way? Did that smell remind you of anything? What are the images that come to mind when you say the word 'Fire'?

**Draw** from memory what you remember in the space below..



# How does fire kill?

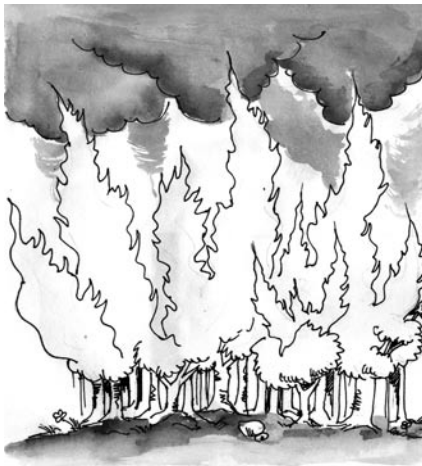
In most cases death occurs even before flames reach the victim, mostly due to toxic gases and smoke. These lead to asphyxiation and poisoning.

Certain gases and the large volumes of ash and carbon particles present in the air prevent oxygen from reaching the lungs and bloodstream. The victim loses

consciousness and suffocates quickly.

Different types of products in houses emit different toxic gases when burnt. These are often highly poisonous and kill much faster than the effects of smoke.

## How are fires caused?



**Forest fires**



**Slow burning garbage sites, plastic and polythene wastes also serve as potential pockets for triggering larger fires.**



**Haystack's.**



**Conventional cooking systems during temple festival.**



**Electrical short circuit**

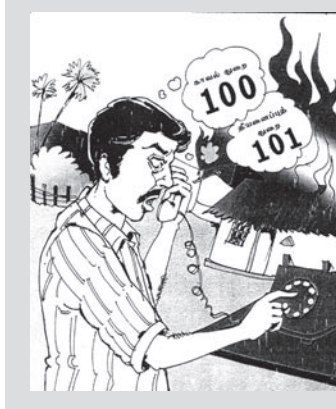


**Fires caused by cooking.**

# What is a Fire Drill?

A series of steps that must be practiced so that everyone knows what to do in case of an emergency. Here are some simple steps to follow in case of a fire.

- Being able to identify the type of fire goes a long way in being able to contain it or put it out in the case of small fires
- Common assembly points need to be indicated to meet after escaping from a fire.
- Call the fire fighting service.



- What to do if your clothes catch fire.  
**Stop** what you are doing.  
**Drop** to the ground, cover your face.  
**Roll** over and over until the flames go out.  
**Do not run**- it will only make it worse.



## Types of Fire

**Class A:** Burning materials like furniture, cloth and wood.  
Water is used to put out most class A fires.

**Class B:** Burning liquids like oil  
Multi-purpose foam: This cools fire and is suitable for A and B class fires. It should not be used on liquid or electrical fires.

**Class C:** Burning gases  
Dry Powder: This cuts the air supply to the fire in order to extinguish it. Suitable for class A and B fires and is safe to use on live electrical appliances. Most domestic fire extinguishers are of this type.

Carbon-di-oxide: Is used to put out fires caused by burning liquids and electrical fires.

Halon: Puts out fires caused by burning liquids, solid fuels and electrical fires but can cause nervous disorders if exceeds recommended dosage.

**STOP!**



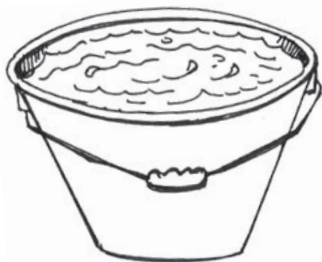
**DROP!**



**ROLL!**



- If you find yourself in a smoke filled room. Crawl low under the smoke to escape.
- Feel the door before opening it. If the door is cool open it slowly. If the door feels hot find another way out.
- Leave the building in case of a fire and go to the common meeting point and wait there. You must not go back into the burning building at any cost.
- Which is the quickest way to reach the playground?
- Special responsibilities need to be allocated: to switch off the electricity and gas supplies.
- Who will ensure that there are always buckets available to fill with water and sand as required?



- Everyone needs to be made aware of the fire brigade and medical emergency services (location, telephone numbers.)



Important phone numbers





## Activity: Adding to the Map

Look at the map of your village on the wall:

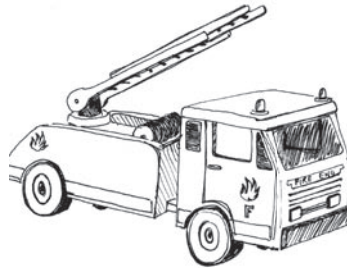
- What are the different types of buildings you see? Which ones are prone to fire? (Eg: Thatched houses, houses of rope makers...etc.)
- Do you know the phone numbers of the fire station and hospital nearest to you?

Write down the numbers in large letters.



100

101



102

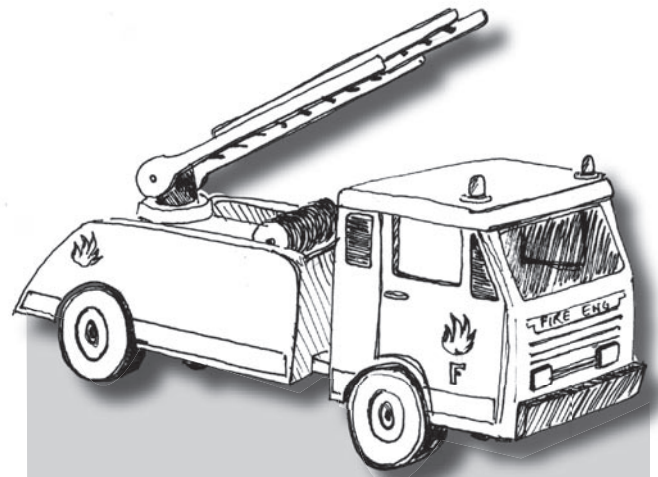
## Activity: Mapping Your School

You've drawn a map of your village in the previous exercise.

Draw another map, this time of your school and its immediate surroundings.

Use the grid on the opposite page to mark:

- All the classrooms.
- Entrances and exits.
- Play ground/sand pit.
- The sick-room.
- The bathrooms.
- Where you go to eat your Tiffin.
- The drinking water taps.
- Are there any areas of open/dry grass around?



What is the phone number of the fire station nearest to you?





This is the map of my school -





## What is a drought?



When a hurricane or a flood occurs, we can see, right away, the damage it causes. When a drought occurs, it can be a long time before we finally notice its impacts. That's because drought doesn't have a sudden beginning or end. But the effects of drought can be just as severe as the effects of a cyclone or an earthquake.

Most of us think of it as “no rainfall”, but it is not that simple. Drought is when you have less rainfall than you expected over an extended period of time, usually several months or longer. Drought is a normal part of climate, and it can occur almost anywhere on earth.

Lack of rain and increased temperatures cause stress on both rural and urban areas.

Unusual periods of rain-free weeks can spread panic and shrivel crops.

- Wells, lakes, and streams begin to dry up.
- Plants and farm crops eventually wither and then die.

- Animals suffer and may even die because of extreme drought.
- Forest and grass fires occur more frequently and can spread quickly if dry arid conditions continue.

### **Drought is caused in two ways:**

- **Natural Causes:** Several types of weather changes can alter the normal rainfall pattern.
- **Human Causes:** Deforestation is a huge culprit. The water retention power of the land is destroyed due to deforestation. The soil loses its power to retain water leading to the loss of soil and moisture, eventually depleting ground water and soil moisture and making the land dry. Over grazing has the same effect. Wind erosion can initiate this process of desertification.



## Activity: Collecting Stories

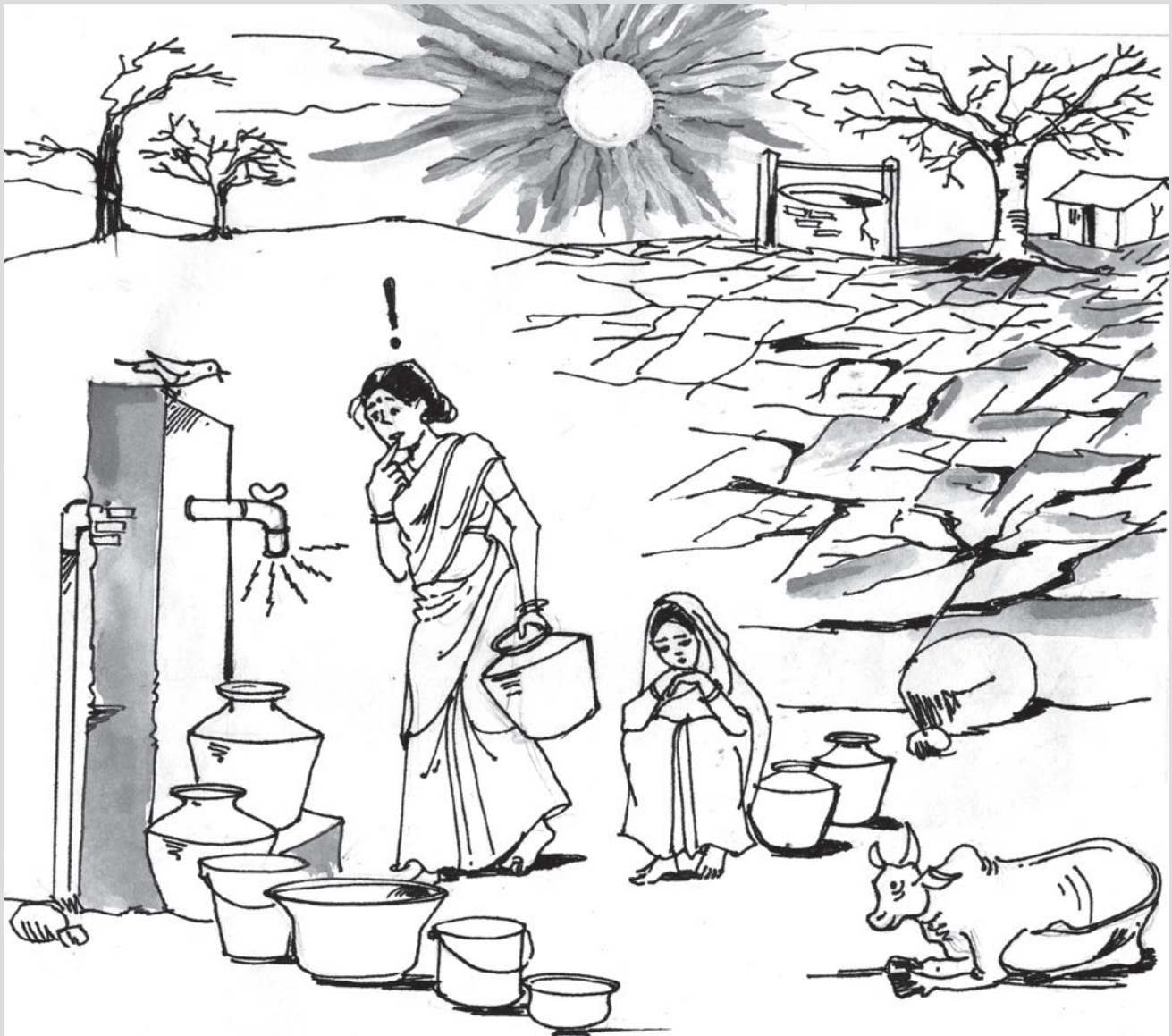
When you go back home today ask your grandparents if they remember any long dry spells.

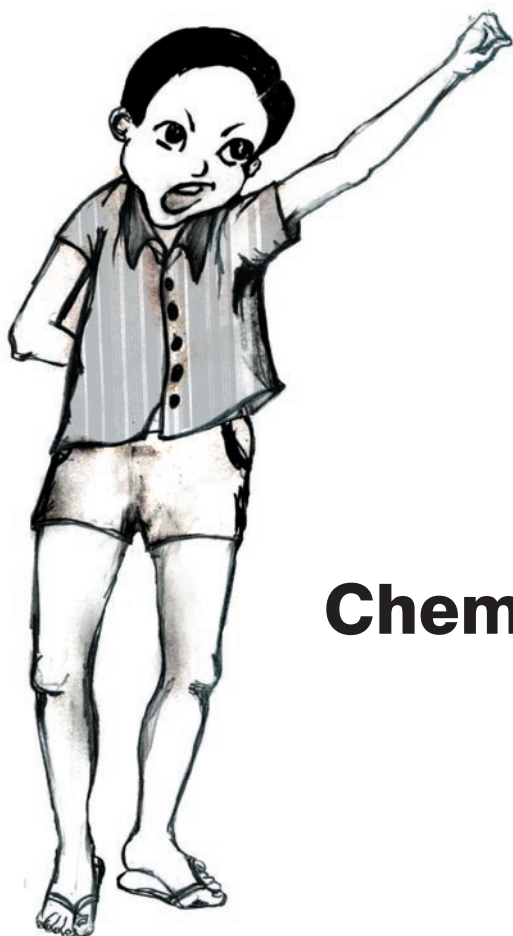
- How long and how severe was the drought?
- What changes did drought make in their lives?
- What were the methods they used to make up for the scarcity of water?



## How to spot a Drought...

- Low rainfall
- Parched agricultural lands
- Dying cattle
- Migration of people and cattle
- Cattle shelters
- Water conservation





## Chemical Disasters

daily. While a catastrophic event may push the Government into action, at least temporarily, victims of day-to-day poisoning have no option but to live in a gas chamber.

The coast of Tamilnadu is dotted by highly polluted pockets of industrialisation. Industries love the sea for the access it provides to raw materials, and more importantly for the service it provides as a dumping ground for their effluents. Coastal communities, particularly fisher-folk, are also particularly vulnerable because they are isolated from the rest of society, and given their poor socio-economic status, they are politically less powerful.

All chemical plants (in India or Europe) stink. Some stink worse than others. But all stink. Odours are a sign of pollution. They indicate that certain chemicals are in the air. However, the absence of a smell does not indicate an absence of pollution. Some chemicals can be detected through their smell only after their levels have far exceeded safe thresholds.

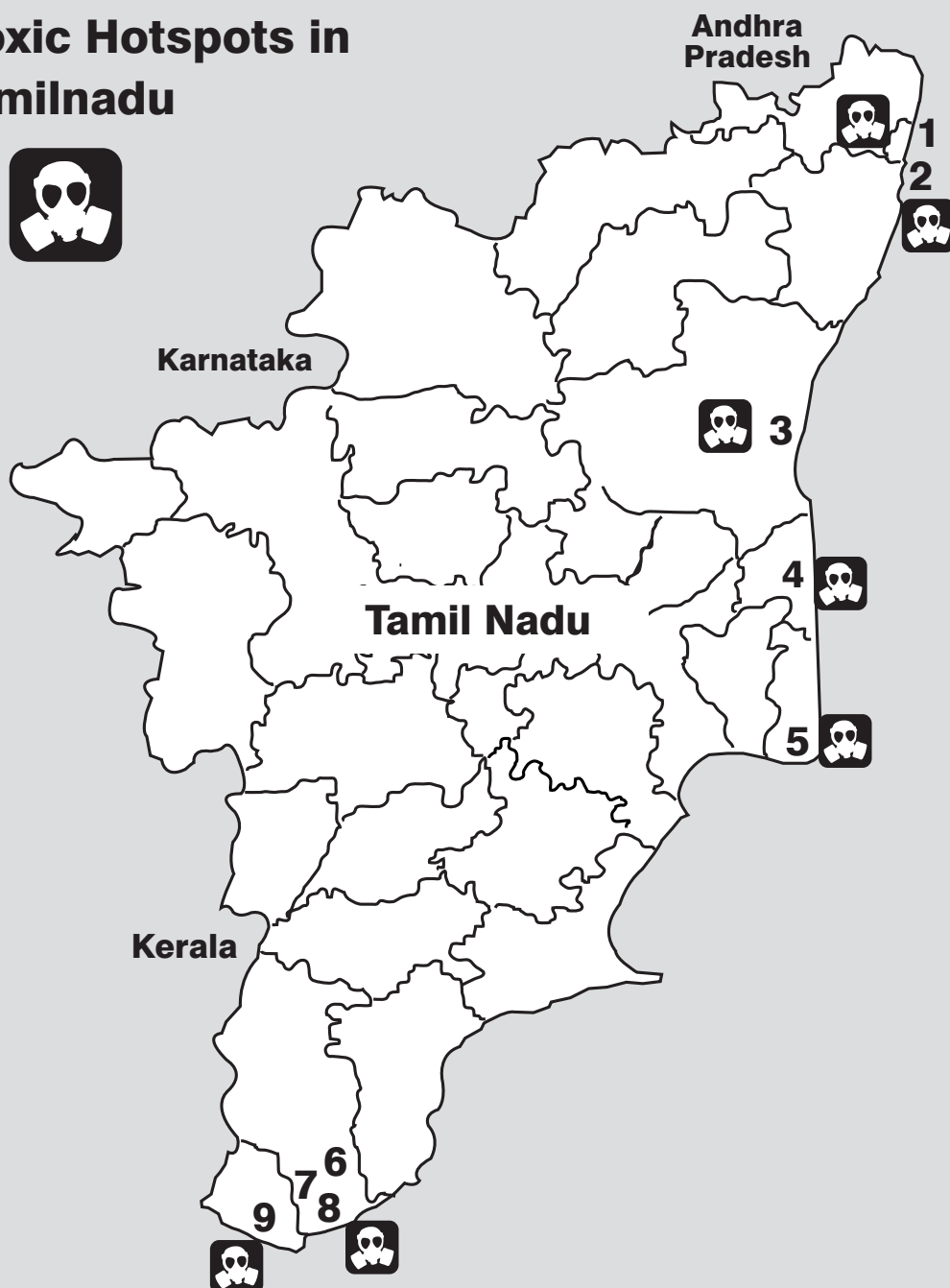
During the night of December 2nd-3rd 1984, a poisonous gas leak from an American pesticide factory in Bhopal, Madhya Pradesh, killed about 8000 people, and injured lakhs. The magnitude of the disaster was heightened by the fact that the hazardous factory was located in a thickly populated residential area, and because the people -- primarily working class families -- were unaware of the danger.

People often think of disasters only as a one-time catastrophic event. In Bhopal, people didn't just die as a result of one big release. Communities living near chemical industries will tell you that they live in a slow-motion Bhopal, where they are being poisoned





# Coastal Toxic Hotspots in Tamilnadu



**1. Ennore-Manali:** Petrochemical industrial estate. Main companies: CPCL, Madras Fertilisers, Futura Polymers

**2. Alathur (en route Mahabalipuram):** Pharmaceutical Industrial Estate: Main companies: Orchid Pharma

**3. Cuddalore SIPCOT (near Rasapettai, Pachaiyankuppam, Chitrapettai):** Chemical Industrial Estate: Asian Paints, SPIC Pharma, Tagros, Vanavil Dyes, Bayer, Arkema

**4. Karaikal:** Chemical industries

**5. Narimanam, Nagapattinam:** Oil exploration wells, and petrochemical refinery

**6. Meelavittan Industrial Estate, Tuticorin:** Chemical and polluting industries

**7. Tuticorin:** SPIC Fertiliser, Tuticorin Alkali, Tuticorin Thermal plant

**8. Sahupuram, Tuticorin:** DCW Ltd -- chemical plant.

**9. Manavalankurichi, Kanyakumari:** Mining of cancer-causing, radioactive sands by Indian Rare Earths



## Activity - Smelly- Smells

This activity is to get you to list out the smells that emanate from the industries.

**What smells can you associate with common, every-day smells?**

The people of Cuddalore can identify 36 different kinds of odours -- nail polish, rotten egg, dead body, alcohol, sapota fruit, shit smell, hospital smell, mosquito coil, smell of decaying fruit, rotten cabbage, neem cake, molasses (sugar industry) You have to organise a routine odour monitoring exercise. Maintain a register in your school, and/or in your homes. Whenever there is an odour incident, record it in your register.

Date	Time	Describe the smell	Intensity



## Activity - How do i feel after a Disaster?

Which emotion matches what you would feel after a Disaster?  
Choose a feeling, then paint a picture of your self with that feeling in the space below.



If \_\_\_\_\_ happened i would feel \_\_\_\_\_



**Note your observations here...**



# Activity guide for the Educator

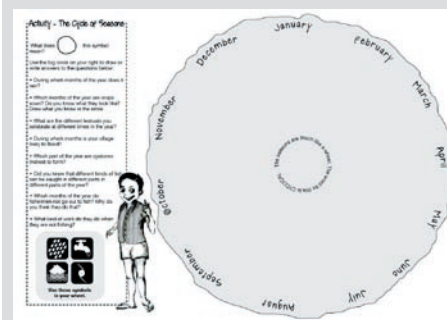
## Cycle of Seasons

**Group Size:** Individual

**Duration:** 1 Hour

**Materials:** DM Activity Book or a sheet of paper with the cycle of seasons as drawn in the book.

**Objective:** To encourage the learners to make the connection between the rhythms of nature and the rituals that define their lives.



## What is a Map?

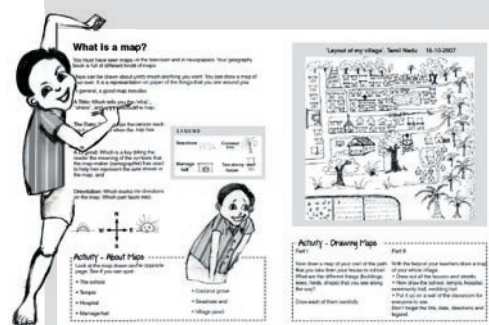
**Group Size:** Individual/ Group

**Duration:** 1 Hour

**Materials:** Drawing material. This exercise can also be done in the school courtyard using kolam.

**Objective:** To use maps as a tool to familiarise the children with their village and make them aware of the things they can do in the event of a disaster.

Use the first exercise to introduce to them the basic tools of map making - a **Legend**, **Title** and **Orientation**.



**A Map of Your Own (Part I)** puts this knowledge to practical use by asking them to draw a route familiar to them. Encourage them to mark all the things that come to mind along the way. Are there any trees along the way that they particularly notice? What kinds of fields do they pass through? What kinds of smells do they encounter?

**Without stressing on 'right' answers** help them ask questions that will encourage them to look at their surroundings.

Encourage them to make maps that are uniquely their own.

## A Map of Your Own (Part II)

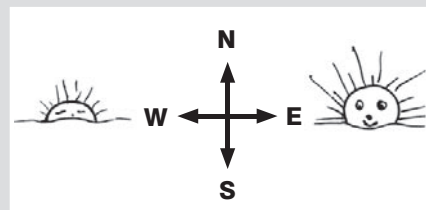
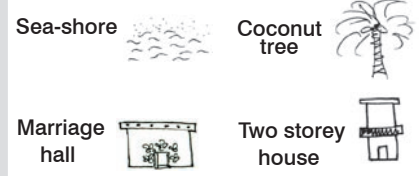
**Group Size:** Individual/ Group

**Duration:** 2 Hours

**Materials:** Drawing material. This exercise can also be done in the school courtyard using kolam.

Ask each group to map one part of the village. Ask them to draw all the houses and streets in their area. To mark the community centre, temple, church, marriage hall, school, hospital.

### LEGEND



## Evacuation Game

**Group Size:** Individual/Group

**Duration:** 10 minutes game. 20-minute discussion.

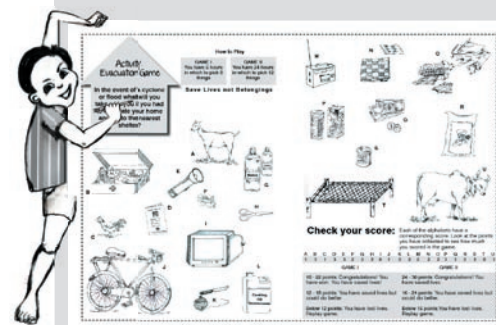
**Materials:** Writing material

**Objective:** To enable the learners to distinguish between needs and wants.

**Discuss:** What each item is.

How do you use it?

Why is it there?



## Play the cardgame

**Group Size:** 21

**Duration:** 10 -30 minutes

**Materials:** You, me and a Disaster - Cardgame

**Role play** the emergency situations from start to response and then after wards.

Focus on the **correct response** and successful outcome.



## Adding to the Map (Fire)

**Group Size:** Individual/Group

**Duration:** 2 hours

**Materials:** Writing and drawing material



Help the children identify potential fire hazards in the form of buildings and spaces in and around the village that are more prone to fire. Eg: thatched houses, house of a rope maker...etc.

**Discuss** with the children why these spaces are fire hazards.

## Map your School

**Group Size:** Individual/Group

**Duration:** Two hours

**Materials:** Drawing material

**Objective:** To familiarise the children with their school and its immediate surroundings keeping a potential fire hazard in mind.

**Discuss:** The different classes of fire.

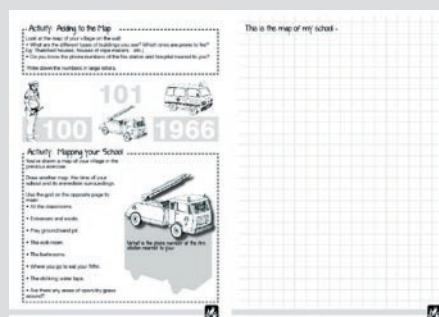
How to identify them.

How each has to be put out.

Identify one or two students who will be responsible:

- to call the fire station in the event of a fire.
- to switch of the electrical mains in the building.

Identify a common meeting point to which everyone will have to go to in case of a fire breaks out.



## Smelly-Smells

**Group Size:** Five children

**Duration:** Three months

**Materials:** Writing materials



Children living near industries are bound to know the various smells that they are exposed to. Get together a small group of such children.

Get them to list out the smells that emanate from the industries. Ask them to associate the smells with common, every-day smells. The people of Cuddalore can identify 36 different kinds of odours -- nail polish, rotten egg, dead body, alcohol, sapota fruit, shit smell, hospital smell, mosquito coil, smell of decaying fruit, rotten cabbage, neem cake, molasses (sugar industry) etc.

Ask them to organise a routine odour monitoring exercise. **Maintain a register** in their schools, and/or in their homes. Whenever there is an odour incident, record it in your register.

Date	Time	Describe the smell	Intensity

Intensity: Low, Medium, Strong (Low is faintly detectable; Medium is clearly detectable, but no serious health effects; Strong is clearly detectable, with overpowering smell often associated with immediate symptoms -- burning of eyes, nose, giddiness, vomiting sensation etc).

If anybody faints or has serious symptoms, please note the following:

Name of person	Describe the Symptom

## Village Planners

**Group Size:** Individual

**Duration:** Half day exercise

**Objective:** To get the children to understand the many different aspects that go into preparing a village/city for a disaster.

**Ask** the learners to become planners for the day. Ask them to plan to reduce the impact of a specific disaster on their village or city in the future.

## Important

Please compile the list and send it in Tamil Nadu to:

Member Secretary, Tamilnadu Pollution Control Board, 76 Anna Salai, Guindy, Chennai 600 032.

### In Pondicherry:

Pondicherry Pollution Control Committee, Department of Science, Technology and Environment, Anna Nagar, Pondicherry.







## Cuddalore – Toxic Present; Troubled Future

By Nityanand Jayaraman

Some of the dirtiest industries – chemical factories, petrochemical refineries, shipbuilding yard, textile dyeing units, and coal-fired power plants – are making a beeline for Cuddalore. Their argument: Cuddalore is already polluted. So let's concentrate all polluting industries in this district.

The kind of industrialization that is planned for Cuddalore will mean the death of Cuddalore as we know it. People dependent on water and land for a livelihood, fishermen and farmers, will suffer from ill-health, fewer work days, and higher medical expense resulting in a loss of livelihood.

The SIPCOT industrial estate is located

on the 8 km stretch south of Pachaiyankuppam on the Cuddalore-Chidambaram Highway. It has been judged as amongst the smelliest places in India. About 19 chemical industries, manufacturing pesticides, pharmaceuticals, dye chemicals, explosives, gelatin and sundry chemicals, spew out noxious air emissions and liquid effluents.

Just as Eskimos have a thousand words to describe the snow, SIPCOT residents have numerous descriptions for the various smells that assault their senses day-long. SPIC smells of shit; Tagros smells like a hospital; Shasun smells like rotten cabbage, rotten eggs; Pioneer Miyagi smells like a decomposing corpse; Asian



Paints smells like sapota fruit. Then there are other smells – nail polish, rotten egg, fruity odours. In all, the SIPCOT Area Community Environmental Monitors (SA-CEM) – a team of five villagers trained in environmental monitoring – have identified at least 36 odours emanating from the SIPCOT industries.

Surely, progress can't be this smelly. Odours are indicators of pollution, of chemicals in the air. Hydrogen sulphide, a deadly gas, has a characteristic rotten egg odour. The nail polish odour indicates the presence of acetone. Rotten cabbage is the smell of your cooking gas resulting from the chemical methyl mercaptan. The shit smell means the presence of a category of chemicals called Indoles.

Out of the 25 chemicals detected in samples of ambient air in SIPCOT, 8 of them were known to cause cancer.

At least 13 of the chemicals found are used as raw material in one or more industries. In other words, toxic chemicals are constantly spilling out of the factories contaminating the air breathed by more than 20,000 people.

Children in the SIPCOT villages can be seen with rheumy eyes, running noses and rashes on the skin. The eye and nose disorders are indicative of upper respiratory tract problems – a likely sign of air pollution. Women in SIPCOT were reporting menstrual irregularities, delayed onset of puberty among girls, compromised physical development among boys, widespread dental and skin problems.

"We can't breathe; it feels like somebody is sitting on your chest. Whatever is in the air burns your eyes, tears through your nose and sets your lungs on fire. At least we can hold a cloth to our nose; imagine

the fate of infants," said one irate mother from Eachangadu, a village surrounded on three sides by smelly factories.

Several 100 acres of fertile farm land have been contaminated, the River Uppanar has less than 8 commercial species are found, down from 30 species of fish in the past..

CUSECS, a company was set up with Government participation to collect treated effluents and discharge it into the Bay of Bengal was found not merely illegal, but was discharging highly toxic and untreated effluents into the sea. The long-term effect on fisheries can be devastating.

Despite intense opposition, the Government is pushing ahead with a proposal by Chemplast Sanmar to set up a factory to manufacture PVC plastic. PVC is one of the most toxic plastics.

The scenic sand dunes of Naduthittu are earmarked for a ultra-mega coal-fired thermal plant which will throw out tones of sulphur dioxide into the air, and release a flyash slurry that will convert the bountiful ocean floor into a concrete cemetery.

All in all, Cuddalore is set to become the smelly, sweaty armpit of industrial civilization.

Some may call this progress or development. But for the people who live in Cuddalore, this is hell. The ones that can afford to have already left Cuddalore. The unfortunate ones and the elderly have no option but to stay in what has now become a gas chamber.

If you're concerned and want to help:

**Contact:** [nopvcever@gmail.com](mailto:nopvcever@gmail.com)

**Visit:** [www.sipcotcuddalore.com](http://www.sipcotcuddalore.com)

# References

## Websites

<http://historymatters.gmu.edu/mse/maps/what.html>

<http://www.lkwdpl.org/study/timeline/#sources>

Principles of Working with Traumatized Children: Special Considerations for Parents, Caregivers, and Teachers Bruce D. Perry, M.D., Ph.D. - The Child Trauma Academy  
[http://www.childtrauma.org/ctamaterials/principles\\_TC.asp](http://www.childtrauma.org/ctamaterials/principles_TC.asp)

<http://www.42explore2.com/drought.htm>

<http://www.weathersa.co.za/Education/EduGrade1and2.jsp>

<http://drought.unl.edu/kids/impacts/affects.htm>

## Books

**Dealing with Disasters Awareness, Preparedness, Response**

An Educator's Manual

By – Centre for Environment Education  
ISBN 81-86385-83-5

**Disaster Management A Handbook for NGO's**

By – Tamil Nadu Voluntary Health Association

**Treasured Islands**

An Environmental Handbook for Teachers in the Andaman and Nicobar Islands  
Sunita Rao, 1996; Revised Edition 1999

**danger: SCHOOL!**

The Other India Press,  
Mapusa Goa - 403 507  
India.

# Acknowledgements

## PMSSS

Pondicherry Multipurpose Social Service Society

14, St. Therese Street  
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**Email:** pmssspondy@hotmail.com

**www.pmsss.org.in**

## Lourdes Nadin Epinal

Pitchandikulam Bioresource Centre  
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**Ph :** 91 - 413 - 2622365, 2622431

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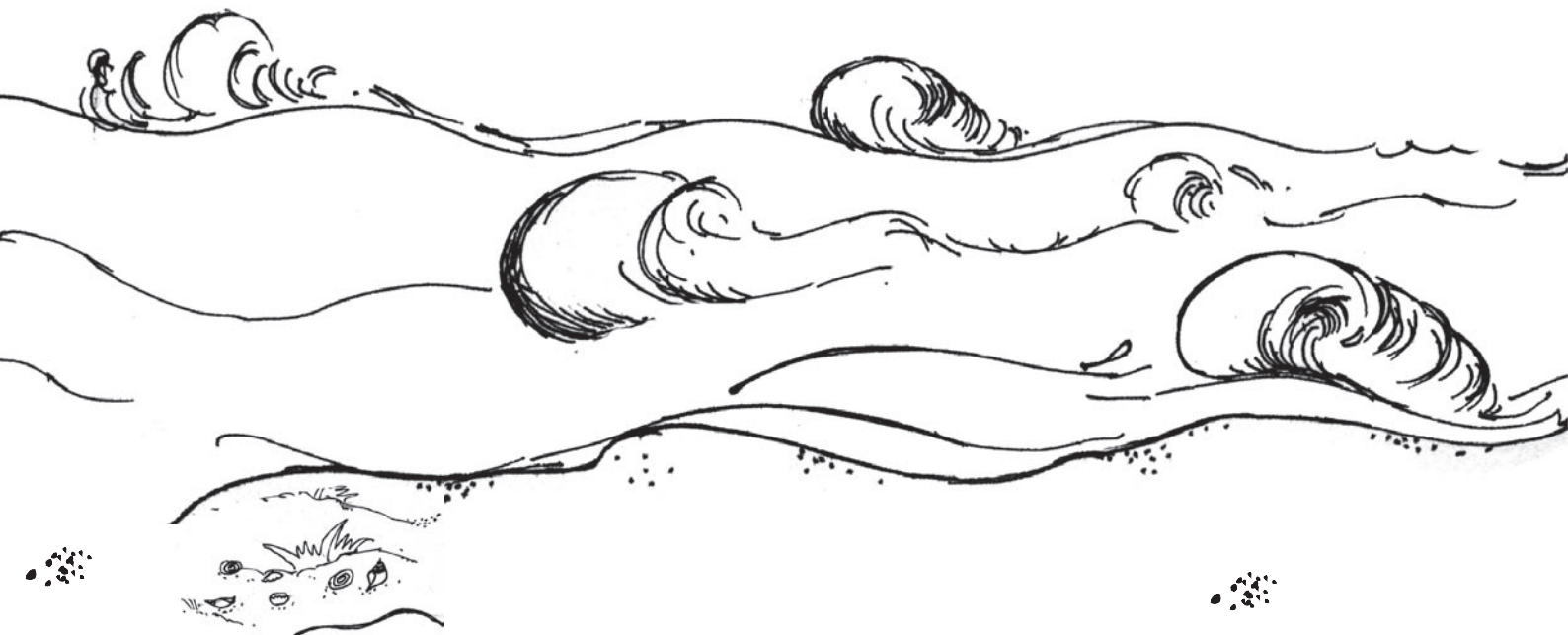
**Email:** [india@archidev.org](mailto:india@archidev.org)

**[www.archidev.org](http://www.archidev.org)**



This book has been designed to begin a conversation with children about Disasters; encouraging them to understand how and why they occur, and what can be done before, in the event of and after a disaster.

The activities encourage them to Do and learn, at the same time providing spaces that encourage them to express themselves opening up paths for exploration.



Architecture & Development (A&D) India, is the counterpart of an NGO founded in 1997 in Paris. A&D was registered as a Trust in India based in Visakhapatnam, Andhra Pradesh.

A&D works in partnership with other NGOs interested in issues related to Sustainable Habitats in various parts of the world. Involved in activities ranging from reconstruction programs in tsunami affected areas, to networking among NGOs, professionals and academia, information dissemination, as well as initiating and implementing exchange programs for professionals and development activists.

It's main objective is to reinforce the competencies of professionals, affirming their role and responsibility as citizens at the same time pooling resources and expertise in various fields.